# HALFWAY HOME: THREE YEARS' OF MONITORING AND ASSESSMENT RESULTS IN THE LAKE ALLATOONA/UPPER ETOWAH RIVER WATERSHED

Charles Morrissey[1], James Stribling[2], Christopher Millard[2], Steven Davie[2], and Steve Shelton[3]

AUTHOR: [1]Lab Manager, Cherokee Co. Water Authority, 260 Colemans Bluff Dr. Woodstock Georgia 30188, 770-516-3688, [2]Tetra Tech, need address here, and [3]TCobb County Water System, need address here
REFERENCE: *Proceedings of the 2009 Georgia Water Resources Conference*, held April 27–29, 2009, at the University of Georgia.

**Abstract** The long-term environmental monitoring program for the Lake Allatoona/Upper Etowah River Watershed (LAUE) is probability-based and rotating basins, with sites randomly selected and stratified within nested 12- and 10-digit USGS HUC subwatersheds. Sampling and analysis for the ecological monitoring component of the WA began in December 2005 and years 2 and 3 in November/December 2006 and 2007, respectively. As a result, ecological assessments (based on physical habitat, geomorphology, water chemistry, and biology [benthic macroinvertebrates (i.e., aquatic insects, snails, and worms)]) have been completed for 158 stream and river locations distributed throughout the upper watershed, and at 11 sites targeted for different land use activities. Three years of ecological monitoring has resulted in a cumulative master list of 334 genera of benthic macroinvertebrates representing 124 families. Using a multimetric index (MMI) calibrated for Georgia Level 3 ecoregions, biological data were organized and interpreted in the context of composite characteristics (metrics) relative to reference conditions. Forty-two (42) percent of the sites were rated as either poor or very poor, which translates to 1,225 kilometers (km) of biologically degraded channel length in the LAUE. Overall, the LAUE is in need of stressor reduction; however, there are specific areas of the watershed (described as 10- and 12-digit HUC subwatersheds, and individual streams) that are in better condition, and would benefit from activities preventing or minimizing the introduction of new stressor sources; there are others in need of stressor reduction.